Claims 1-33 are pending. Claim 1 was amended. The amendment is supported in the application as filed, for example at paragraphs [0067]-[0070]. No new matter was added.

Rejections under 35 U.S.C. § 101

Claims 1-23 were rejected under 35 U.S.C. § 101 on the ground that the claims are directed to non-statutory subject matter.

In order to expedite prosecution, claim 1 has been amended to clarify that the services directory is provided using at least one computer having memory and at least one processor. Applicant's attorney believes that claim 1 as amended excludes the subject matter identified by the Examiner as non-statutory (i.e. software per se).

Claims 2-23 are dependent on claim 1. Thus, it is respectfully submitted that the rejection to claims 1-23 under 35 U.S.C. § 101 should be withdrawn.

Rejections under 35 U.S.C. § 102

Claims 1-33 were rejected under 35 U.S.C. § 102(e) as anticipated by Flaxer et al., U.S. Patent Pub. No. 2004/0162741 (hereinafter "Flaxer"). It is respectfully submitted that claims 1-33 are not anticipated by Flaxer for at least the following reasons.

Flaxer relates generally to techniques for providing access to services on a network, called the PLM-web. (Abstract). "PLM-web is a distributed interconnection of process flow managers (supervisors of dynamic workflow processes) and service providers that subscribe to an implementation of unique service ontology models, service composition schema models, and event messages models." (¶ [0022]). A business process proxy, which encapsulates for public access the internal processes of the service provider, is provided by the service provider for each service description. (Abstract). Each business process also has a business flow manager that dynamically composes ad-hoc workflow prior to the execution of the business process. (Abstract).

The business process proxy described in Flaxer is a service adapter created by the service provider that maps the internal processes of the service provider to the public processes known to the PLM-web. (¶ [0312]). These public processes are published by the service provider into the PLM repository. (¶ [0313]). Thus, users may access the services provided by the service provider by making use of the public processes provided in the public interface, which are mapped by the business process proxy to the service provider's internal, private processes. (¶ [0312]).

The business process proxy also includes a workflow manager and service process manager. (¶ [0314]-[0315]). The service process manager "is responsible for the overall coordination of business proxy tasks. It provides a mechanism to map the private service provider processes 2010 to a publicly defined workflow 2022 that is subsequently published and maintained in the PLM repository 1840." (¶ [0314]). According to Flaxer, "the workflow manager 1910 maintains the tracking of tasks and state transitions associated with the microflow (provider workflow). As changes occur within a workflow instance the workflow manager 1910 initiates message events broadcast to the PLM-flow managers 1810 advising them of these conditions." (¶ [0315]).

In contrast to the teachings of Flaxer, the claims of the present application recite techniques for enabling consumption of services via a services network by providing different connectors for a service that reflect the protocols and policies of different consumers of that service. Each connector is operable to mediate communication protocol and business policy differences between the corresponding service and the consumer of the service. Also, the claims recite a connector design process that facilitates the creation of new connectors for services identified in a services directory. The connector design process may be used to create a connector that accommodates the communication protocols and business policies of both the service provider and one or more consumers of that service.

According to the application as filed, communication protocol differences may included, for example, "differences between authentication protocols, transport protocols, messaging protocols, etc." (¶ [0024]). Business policy may include, for example, "imposing legal restrictions on the use of a service (e.g., through a terms of use agreement), execution of a contract, providing advance payment, executing credit checks, etc." (¶ [0025]). In some embodiments, mediating these differences may ensure that "a consumer of a service need only be able to identify the service to be consumed for the network to successfully mediate the interaction." (¶ [0023]).

The Office Action cites FIGS 15, 16A, 16B, 16C, 17A, and 17B and paragraphs 39, 41, 42, 260, 264, and 290 as disclosing the elements of claim 1. (Pages 3-4). However, it is unclear which of the components mentioned in the cited passages of Flaxer are believed to be analogous to the features recited in the claims. The Examiner is invited to clarify how the cited portions of Flaxer are believed to map to the features of the independent claims.

For example, the Office Action seems to suggest that the business process proxy described in Flaxer is analogous to the connector recited in the claims. However, the business process proxy is not configured to mediate differences between two end points on the network.

Instead, as discussed above, a service provider's business process proxy provides a mapping between public processes that a service provider wishes to make available to users on the PLM-web and the service provider's internal, private processes. (¶ [0312]-[0313]). "This concept is illustrated in FIG. 20, where the private processes 2010 (comprised of private workflow 2012 and private controls 2014) and private data 2016 and private interfaces 2018 are hidden from the PLM-web 2030 through the use of the business process proxy 2020." (¶ [0312]). Figure 20 of Flaxer is reproduced below:
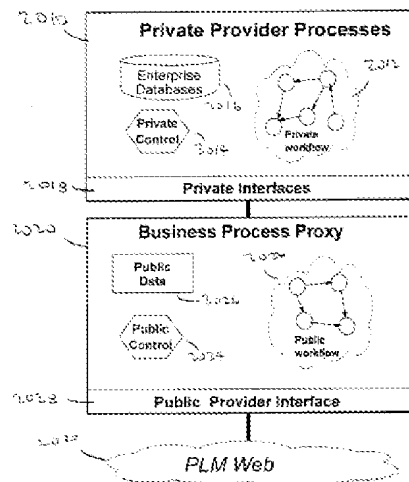

FIGURE 20

Thus, in Flaxer, the business process proxy is a single system that resides between a service provider's private interfaces and the network. In contrast, the claims of the present application recite a connector configured to mediate differences in communication protocols or business policy differences between the service provider and different users of the service. Providing a mapping between a service provider's private services and the provider's public interface on the network, as described in Flaxer, is fundamentally different than mediating differences between the service and different users on the network, as recited in the claims.

Furthermore, nowhere does Flaxer disclose or suggest that the business process proxy is configured to mediate differences in communication protocols or business policy differences. Because the business process proxy does not reflect the policies or protocols of any particular consumer or consumers of the service, it does not mediate differences between the service and consumers of the service. In contrast to the teachings of Flaxer, as discussed above, the connectors recited in the claims may be designed to accommodate the communication protocols or business policies (such as authentication protocols or legal restrictions on the use of a service) that are specific to particular consumers of a service. Thus, the business process proxy is fundamentally different than the connectors recited in the claims.

By its very definition, Flaxer's business process proxy reflects the characteristics of only a single end point on the network, i.e., the service provider with which it is associated, and therefore cannot reflect the communication protocol and business policies of another end point on the network, e.g., a consumer of the service. Instead, consumers of the service must conform to the service provider's public interface presented by Flaxer's business process proxy. Thus, Flaxer's business proxy does not "mediate communication protocol and business policy differences between a first end point on the network associated with the corresponding service and a second end point on the network associated with a consumer of the service."

In addition, nowhere does Flaxer describe any design process for the business process proxy. Instead, as discussed above, a single business process proxy is established by the service provider. (¶ [0312]). For example, Flaxer states "Once the business process proxy is established the service provider publishes their public process, based on service ontology and service composition schema, into the PLM repository that enables identification and service composition integration into the PLM workflow." (¶ [0313]). By contrast, the connector design tool as recited in the claims of the present application facilitates the creation of a new connector for the corresponding service, and to specify at least one business process for mediating the business policy differences. Nowhere does Flaxer disclose or suggest such a connector design tool. In fact, because Flaxer's business process proxy is intended to provide a single public interface by which the corresponding service may be consumed, there is no need in Flaxer's approach for such a design process. Instead, as mentioned above, consumers of services must conform to the interface made public by the business process proxy. Thus, the business process proxy is fundamentally different than the connectors and connector design process recited in the claims.

The business process proxy described in Flaxer includes a service process manager and workflow manager. (¶ [0314]). However, because these components are part of the business proxy, they are fundamentally different from the connector recited in the claims for at least the reasons discussed above. Flaxer does describe these components as capable of resolving conflicts among rules. (¶ [0259], [0290]). However, the business rules described in Flaxer relate to business process flows running on the PLM-network. (¶ [0153]). Nowhere does Flaxer disclose or suggest that these rules include, for example, communication protocols used by a consumer of a network service, as recited in the claims. Furthermore, Flaxer states that resolving these rules conflicts involves either "allowing the user to modify the rules or change the input data" or finding "another PLM-flow schema that can avoid the conflict." (¶ [0290]). Thus, Flaxer suggests that differences in rules require modification of the rules or using a different

10

process. By contrast, the connectors recited in the claims can mediate differences in communication protocols and business policies.

Furthermore, Flaxer fails to disclose or suggest any design process for the service process manager and workflow manager. Instead, Flaxer states that "end users only need to specify the service schema of the target task 810 (that represents the end objective of the business process) and provide necessary input data 820" (¶ [0153]). The PLM-network then creates a PLM-flow based on the defined end objective. (¶ [0153]). Thus, the user does not seem to communicate directly with a specific service in Flaxer's system. Instead, the PLM-network "dynamically adds tasks" and selects appropriate services and schemas. (¶ [0153], [0290]). Therefore, under Flaxer's system, a network user is not provided with any connector design process operable to facilitate creation of a new connector for a specific service, as recited in the claims.

Since Flaxer does not describe a connector or connector design process as recited in the claims of the present application, it cannot be said to anticipate or obviate the claimed invention. That is, Flaxer does not teach or suggest a connector that is operable to mediate communication protocol and business policy differences between the corresponding service and the consumer of the service, or any connector design process that facilitates the creation of new connectors. Therefore, the rejection of the all of the claims of the present application over Flaxer should be withdrawn.

In view of the foregoing, Applicants believe all claims now pending in this application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (510) 663-1100.

Respectfully submitted,
WEAVER AUSTIN VILLENEUVE & SAMPSON LLP

/Joseph M. Villeneuve/

Joseph M. Villeneuve
Reg. No. 37,460

P.O. Box 70250
Oakland, California 94612-0250
(510) 663-1100

11